Message

From: Gerhard, Sasha [Gerhard.Sasha@epa.gov]
Sent: 2/16/2016 5:47:27 PM
To: Galbraith, Michael [Galbraith.Michael@epa.gov]
Subject: Re: OB/OD call

Thanks!

From: Galbraith, Michael
Sent: Tuesday, February 16, 2016 11:53 AM
To: Gerhard, Sasha
Subject: Fw: OB/OD call

did not see you on the cc list

Mike Galbraith
Permits Branch (5303P)
Program Implementation/Information Division
Office of Resource Conservation and Recovery
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

From: Walsh, Michael ERDC-RDE-CRREL-NH CIV <Michael.Walsh@erdc.dren.mil>
Sent: Tuesday, February 16, 2016 11:31 AM
To: Craig, Harry; Gullett, Brian
Cc: Walsh, Marianne E ERDC-RDE-CRREL-NH CIV; Taylor, Susan ERDC-RDE-CRREL-NH CIV; Galbraith, Michael; Shuster, Kenneth; Palumbo, Janice; Halstead, Sandra; Maddox, Doug
Subject: Re: OB/OD call

The EOD folks I have been in touch with are very concerned about deposition of energetics from BIP operations. The residues are quite fine in some cases and easily "kicked up" where they can be inhaled.

Michael R. Walsh, PE
Research Mechanical Engineer
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On 1/25/16, 1:48 PM, "Craig, Harry" <Craig.Harry@epa.gov> wrote:

Brian,

In the field we have had to deal with the soil heterogeneity issue for explosives for the last 20 years. The initial attempts were to use a higher density grid sampling with field analytical methods, which still has some validity. The most current state of the art is MIS sampling and lab procedures in Method 8330B to deal with the heterogeneity issues. I've worked with the CRREL folks (Tom Jenkins, the late Alan Hewitt, Marianne, and Susan Taylor) for a long time.

It would be good to have SERDP/ESTCP fund more work to get complete mass balances (air, soil, and groundwater) for emissions from OB/OD operations. The longest term effects and the most expensive part of cleanup for OB/OD units are usually the massive amounts of metal remaining subsurface, soil contamination, and groundwater contamination.

Regards,

Harry

From: Gullett, Brian
Sent: Monday, January 25, 2016 7:56 AM
To: Craig, Harry <Craig.Harry@epa.gov>
Cc: Walsh, Marianne E ERDC-RDE-CRREL-NH <Marianne.E.Walsh@erdc.dren.mil>; Taylor, Susan ERDC-RDE-CRREL-NH <Susan.Taylor@erdc.dren.mil>; Galbraith, Michael <Galbraith.Michael@epa.gov>; Shuster, Kenneth <Shuster.Kenneth@epa.gov>; Walsh, Michael ERDC-RDE-CRREL-NH <Michael.Walsh@erdc.dren.mil>
Subject: RE: OB/OD call

Harry,

Thanks for your comments.

Our three SERDP projects (links sent last week) were established to determine emission measurement methods and emission factors so there was no focus on soil contamination. The limited soil sampling reported in the 2015 journal article was an initial attempt to see whether soil metals could be subtracted from the particulate matter metals to determine ordnance-originated metal emissions. It was not meant to be a comprehensive soil analysis – a point which maybe was not sufficiently made in the article.

We have paired with the Army Corps at CRREL (I see you have cc'd Marianne Walsh on your emails) to do concurrent air emission and snow surface sampling. This preliminary work was done last February in Anchorage; we hope to continue this effort but funding has not seemed to materialize.

Thanks for these documents; hopefully we'll get the chance to do a more comprehensive air and soil effort.

Brian

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From: Craig, Harry
Sent: Thursday, January 21, 2016 1:45 PM
To: Shuster, Kenneth <Shuster.Kenneth@epa.gov>; Gullett, Brian <Gullett.Brian@epa.gov>
Cc: Walsh, Marianne E ERDC-RDE-CRREL-NH <Marianne.E.Walsh@erdc.dren.mil>; Taylor, Susan ERDC-RDE-CRREL-NH <Susan.Taylor@erdc.dren.mil>
Subject: RE: OB/OD call

Ken, Brian,

Based on review of the 2015 journal article, there appears to be very limited soil sampling. The sampling methods using about a 5 sample composite would substantially not meet the sampling design objectives in the current EPA Method 8330B Appendix A for explosives and propellant analysis. Explosives and propellants in soil exhibit extreme heterogeneity and as such, need a large amount of increments to adequately characterize a specific soil area using an Multi-Increment Sampling (MIS) approach. Attached is a study comparing 5 composite samples vs. MIS approach with 30 or greater increments. A large number of increments (> 30) and laboratory grinding of the soil samples are requirements of the current EPA Method 8330B.

Here is the link to the current EPA Guidance document on sampling design for explosives in soil:

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Dr. Tom Jenkins' webinar is also a good overview of the issues related to soil sampling for explosives:

Blockedhttps://www.serdp-estcp.org/Tools-and-Training/Webinar-Series/05-28-2015Blocked

Regards,

Harry

From: Shuster, Kenneth
Sent: Wednesday, January 20, 2016 12:16 PM
To: Gullett, Brian <Gullett.Brian@epa.gov>
Cc: Craig, Harry <Craig.Harry@epa.gov>; Galbraith, Michael <Galbraith.Michael@epa.gov>; Gaines, Jeff <Gaines.Jeff@epa.gov>; Crosby-Vega, Terri <Crosby-Vega.Terri@epa.gov>; Gerhard, Sasha <Gerhard.Sasha@epa.gov>; Kohler, Amanda <Kohler.Amanda@epa.gov>; Gervais, Gregory <Gervais.Gregory@epa.gov>; Anderson, RobinM <Anderson.RobinM@epa.gov>; Gaines, Jeff <Gaines.Jeff@epa.gov>; Abdul-Malik, Norma <Abdul-Malik.Norma@epa.gov>; Sasseville, Sonya <Sasseville.Sonya@epa.gov>; Wilson, Michaelle <Wilson.Michaelle@epa.gov>; Wanslow, Julie <Wanslow.Julie@epa.gov>
Subject: FW: OB/OD call

Thanks Brian. I'm forwarding these on to key EPA people working on this issue. Please keep me informed on the Radford tests. I hope to find the time to get comments to you, but don't hold your breath.

All,
These are reports on Brian Gullett (EPA) et al's efforts to develop testing protocol and emissions factors to fill the void for OB/OD of energetics.

Ken
703-308-8759

From: Gullett, Brian
Sent: Wednesday, January 20, 2016 12:30 PM
To: Shuster, Kenneth <Shuster.Kenneth@epa.gov>
Subject: OB/OD call

Ken,

It was good to meet you via the conference call today and I look forward to speaking with you again.
I think you have the latest paper on OB/OD (Aurell et al., J. Haz. Mat.) and I've also attached one of our earlier papers that talks about the sampling method (Chemosphere). The SERDP reports can be found at Blockedwww.serdp.orgBlocked or:

Blockedhttps://www.serdp-estcp.org/Program-Areas/Weapons-Systems-and-Platforms/Energetic-Materials-and-Munitions/Munitions-Emissions/WP-2233/WP-2233/(language)/eng-USBlocked

Blockedhttps://www.serdp-estcp.org/content/download/9560/122378/file/WP-1672-FR.pdfBlocked

Blockedhttps://www.serdp-estcp.org/content/download/15568/177130/file/WP-2153-FR.pdfBlocked

You'll also note that the main SERDP web site shows a lot of research related to partial detonations, range issues, etc.

I'm interested in your thoughts on these reports and our methods.

Thanks!

Brian

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